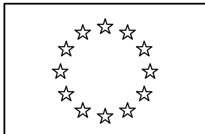

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Assessment of the 2012 national reform programme and stability programme for ESTONIA

Accompanying the document

Recommendation for a

COUNCIL RECOMMENDATION

on Estonia's 2012 national reform programme and delivering a Council Opinion on Estonia's updated stability programme for 2012-2015

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EXECUTIVE SUMMARY

After a strong rebound in 2011, Estonia's GDP growth is expected to slow down in 2012 to 1.6%. The rate of unemployment dropped substantially in 2011 and is expected to decrease further in 2012 to 11.6%.

The robust economic growth in 2011 led to a better-than-expected outcome in public finances with a general government surplus of 1.0% of GDP. In 2012, the general government is expected to record a deficit of 2.4% of GDP, mainly due to one-off projects and already planned pension increases. The government managed to engage resolutely in the higher education reform and invest significantly in energy-efficiency policies. Notwithstanding these major achievements, reform efforts appear insufficient, in particular given the scale of the challenges on the labour market, in certain areas of education and in the energy sector.

Estonia faces important challenges: in view of the moderate growth outlook, continued fiscal effort will be required to achieve the medium-term objective. In particular, both the 2012 and 2013 deficits are likely to be higher than envisaged a year ago and implied by the budget. The efficiency of public spending could be improved, in particular through better targeting of public spending on social security. A lack of effectiveness at the level of local governments is having a negative effect on the delivery of public services. Estonia's energy and resource intensity is amongst the highest in the EU and there is a need to develop more efficient energy sources. A better functioning and better targeted education system could be instrumental in ensuring an adequate supply of human capital. With an Estonian innovation framework still detached from the real economy, a low number of companies are innovating, which could hamper productivity growth and thus affect the country's medium- and long-run competitiveness.

1. INTRODUCTION

The 2012 national reform and stability programmes were adopted by Estonia's Council of Ministers on 26 April 2012. They give an integrated outline of the fiscal consolidation efforts, the key structural reforms and the reforms that underpin macroeconomic stabilisation. The national reform programme evaluates the progress made towards meeting the national targets for employment, R&D, education, energy and climate change, and poverty reduction for 2020. These targets map out the longer-term development trajectory to modernise the Estonian economy and put imminent reform priorities in a broader context. The national reform programme also describes the measures Estonia has adopted to fulfil its obligations under the Euro Plus Pact.

Estonia's stability programme has been prepared in parallel with the national reform programme and the multi-annual state budget strategy. The stability programme is largely consistent with the code of conduct for the Stability and Growth Pact, while the national reform programme is consistent with the guidance provided by the Secretariat-General of the Commission. Annual progress reports and updates of the programmes were discussed with the main socio-economic partners, the Sustainable Development Commission and the Parliamentary committee for European Affairs in April 2012. The updating took place in accordance with the government's Action Plan.

Overall assessment

In June 2011 the Commission proposed four country specific recommendations (CSRs) for economic and structural reform policies for Estonia. In July 2011 the Council of the European Union adopted these recommendations which concerned public finances, the labour market, education and energy. In November 2011 the Annual Growth Survey for 2012 (AGS 2012) presented the basis for building the necessary common understanding about the priorities for action at national and EU levels in 2012. Against this background, Estonia presented its 2012 national reform programme and 2012 stability programme in April 2012. These programmes give details of the progress made since July 2011 and of the plans going forward. This Staff Working Document assesses the state of implementation of the 2011 CSRs in Estonia, identifies current policy challenges and, in this light, examines the country's latest policy plans.

On the positive side, the country has managed to achieve a sizeable budget surplus and nearly halve its high unemployment level, thanks also to the robust economic growth, and to engage resolutely in the higher education reform and invest significantly in energy-efficiency policies. Notwithstanding these major achievements, reform efforts appear insufficient, in particular given the scale of the challenges on the labour market, in certain areas of education and in the energy sector. Unemployment is still high and, given the subdued global outlook, may stabilise at this level for some time. Competitiveness is still hampered by skills mismatches, a lack of qualified professionals (both blue and white collar) and relatively weak innovation: Estonia needs to move towards more technology-intensive sources of growth. Finally, in the light of the exceptionally high energy intensity of the Estonian economy, further efforts will be needed to reduce the energy bill. Therefore, in these areas, but also in fiscal policy, the challenges identified in June 2011 and reiterated in the AGS for 2012 still apply.

The policy plans submitted by Estonia are generally relevant. Beyond measures already scheduled in the 2011 Action Plan for 2011-2015, the new Action Plan proposes quite a large number of new measures, mostly focusing on the quality of the education system and labour market needs, the efficiency and sustainability of labour market policies, energy efficiency and the efficiency of public spending. However, the programme could

have been more comprehensive in the energy sector and local government reforms. Also, given that some of the existing and the new measures are quite ambitious in scope and scale, their implementation is spread over several years. For some measures, the estimated budgetary impact is only indicative, as details of the planned reforms are still being discussed.

2. ECONOMIC DEVELOPMENTS AND CHALLENGES

2.1. Recent economic developments and outlook

Recent economic developments

After a deep contraction of foreign trade and GDP in 2008 and 2009, the Estonian economy has rebounded promptly, with growth reaching 2.3 % in 2010 and 7.6 % in 2011 and exports the driving force behind the recovery. In 2011, private consumption and investment were also on a solid footing. In the last months of 2011, Estonia was not immune to the deteriorating confidence seen in many Member States. As a result, GDP shrank in the last quarter. The contraction was, however, limited to specific segments of the exporting sectors. More recently, manufacturing production seems to have stabilised somewhat below its recent peak level.

The external balance showed large surpluses in 2009, 2010 and 2011, reducing the stock of external liabilities. In 2010 and 2011, the negative net foreign assets position fell by 9 and 15 pps respectively (from 82.0 % of GDP in 2009). The ratio of gross and net external debt to GDP improved similarly, with short-term liabilities fully covered by short-term assets.

After negative values in the first half of 2010, average annual HICP (harmonised index of consumer prices) inflation rose rapidly to 5.1 % in 2011, spurred by high international food and oil prices. However, the contribution made by non-energy industrial goods remained low, alleviating the risk of loss of competitiveness. Looking forward, lower commodity prices since mid-2011 should contribute to moderating inflation in 2012 and 2013. Unemployment was still high at 12.8 %, but adjusting quickly downwards, reflecting high labour market flexibility. Unemployment is expected to contract further from spring 2012, but at a much slower pace amid more moderate GDP growth.

At slightly less than 160 % of GDP in 2011 (consolidated figures), the stock of private debt still reflects the rapid accumulation in the boom years. However, credit deleveraging is continuing, even though the pace is slowing down, while large domestic deposits and prudent supervisory policies are helping to maintain the stability of the banking sector.

Public-sector finances remain among the strongest in the EU, with the lowest debt level, at around 6 % of GDP, and a budgetary surplus in 2011 due to better-than-expected growth and one-off factors.

Outlook

Reflecting the economy's catching-up potential, real GDP is expected to continue growing above the EU average over the long term thanks to continuing capital accumulation and productivity gains. Economic growth is projected at 1.6 % in 2012, reflecting lower confidence and weaker external demand around the turn of the year. However, in 2013 growth should be back to around 3.8 %, driven by exports and increasingly also by domestic demand mostly through stronger private investment. The

export-led recovery may resume soon as global demand is recovering. This could allow the country to continue deleveraging smoothly. However, as domestic demand increases, maintaining external balances may still require improvements in competitiveness to foster exports, while further internal adjustment appears necessary to reduce risks to macrofinancial stability. The government balance is expected to deteriorate in 2012 before improving in 2013 and staying within the 3 % of GDP limit during the period.

Both the national reform programme and the stability programme share the same short-term economic outlook, but neither of them gives any figures on the impact of the planned structural reforms on growth. For 2012 the outlook is broadly in line with the most recent Commission forecasts. However, for 2013 the Estonian authorities are more pessimistic and forecast real GDP growth of 3 %.

Overall, the level of potential growth in Estonia in the years ahead is likely to stay below its pre-crisis rate, when rapid capital accumulation reflected EU accession and swift financial convergence. Moreover, the population is ageing, with the working-age population declining. Post-crisis structural unemployment will also be durably higher, weighing on the potential growth. However, steady foreign direct investment inflows should still bring a sizeable contribution by total factor productivity to growth, while continuing structural reforms could boost potential growth. In parallel, a number of factors are likely to support a strong contribution by capital to potential growth, such as the existence of a business and policy climate that favours private investment, public infrastructure investment supported by EU cohesion funds, and the need for further improvements to the housing stock when real wage growth resumes. These factors combined could pose a risk of re-emerging inflationary pressures once domestic demand has recovered.

2.2. Challenges

Overall, the main policy challenges facing the country have not changed since the 2011 assessment exercise, though some adjustments are needed as the government progresses with its reform agenda.

First, a continued fiscal effort will be required in order to achieve the medium-term objective in view of the moderate growth outlook. In particular, both the 2012 and 2013 deficits are likely to be higher than envisaged a year ago and implied by the budget. Given the need to maintain a prudent fiscal stance, the efficiency of public spending could be improved, in particular through better targeting of public spending on social security. In parallel, at this stage the fiscal framework does not fully incorporate the necessary formal elements that could support Estonia’s longer-term commitment to overall sound fiscal policies.

Second, although the banking sector weathered the economic and financial crisis relatively well, private-sector indebtedness remains relatively high. Moreover, in the present context of high inflation, wage pressures are reappearing and could feed into excessive credit growth relatively soon. This risk is compounded by fiscal provisions that still encourage borrowing, including the underdeveloped property taxation and the quasi-abolition of land tax from 2013.

Third, while unemployment, which soared during the crisis, has declined rapidly, long-term and youth unemployment are still high. Moreover, they could become persistent due to skills mismatches and the low coverage of active labour market policies. This could put additional pressure on both labour market policies and social protection, with the poverty risk affecting children in jobless households and single parents most. If active

labour market policies are not effective enough, structural unemployment could weigh on labour supply and lead to premature upward pressures on wages in growing sectors.

Fourth, although export performance and fundamentals (wage-setting parameters and labour market regulations) are strong, competitiveness issues remain a cause for concern. As economic restructuring is taking place, shortages of qualified labour are exerting upward pressure on wages, leading to higher costs for companies[1] and affecting investment and growth potential. In this light, a better functioning and better targeted education system could be instrumental in ensuring an adequate supply of human capital. Also, better functioning markets, including for services, along with further reduction of the administrative burden for enterprises could help contain domestic price pressures and ensure competitiveness. In particular, the low stock of infrastructure investments at both domestic and cross-border levels restrains the mobility of goods and factors of production. Finally, with the Estonian innovation framework still detached from the real economy, a low number of companies are innovating, which could hamper productivity growth and thus affect the country's medium- and long-run competitiveness.

Fifth, Estonia's energy and resource intensity are amongst the highest in the EU, while the importance of oil shale as an energy source emphasises the need to develop more efficient and less polluting energy sources and adequately address the pressing waste issue.

Finally, a lack of effectiveness at the level of local governments is having a negative effect on the delivery of public services in the areas of education, social assistance, health and transport. Also, given the significant impact of EU cohesion funds on the economy, it will be important to create the conditions for effective support and to tighten strategic programming of funds for 2014-2020 in order to deliver on the Europe 2020 priorities.

3. Assessment of policy agenda

3.1. Fiscal policy and taxation

Budgetary developments and debt dynamics[2]

The main goal of the Estonian budgetary strategy, as expressed in the 2012 Stability Programme, is to ensure sustainable fiscal policy that supports balanced economic growth. The medium-term objective (MTO), unchanged compared to the previous programme, is a structural surplus. The MTO adequately reflects the requirements of the Stability and Growth Pact. According to the programme, the MTO will be achieved as of 2013. Other fiscal objectives include ensuring sufficient fiscal buffers and reducing the tax burden to the pre-crisis level by lowering labour taxes.

In 2011, the general government budget position was a surplus of 1 % of GDP, which was considerably better than the deficit of 0.4 % projected in the 2011 stability programme. This was primarily a result of significantly stronger-than-expected economic and employment growth. In addition, the outcome was positively affected by the sizeable sales of the Kyoto units,[3] which amounted to 1.2 % of GDP in 2011, combined with

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1 The situation seems especially intense in the services sector: Estonia showed the sixth highest average annual growth in unit labour costs in services between 2000 and 2010 out of the 26 Member States for which data are available.

3 An Assigned Amount (or Kyoto) Unit (AAU) represents an allowance to emit greenhouse gases. In 2010-12, the one-off revenue related to the AAU sales is expected to total EUR 373 million, which will be invested in 2011-13.

delays in implementation of the related investment projects. The 2012 programme forecasts a deficit of 2.6% of GDP in 2012, which is bigger than projected both in the 2011 stability programme and in the Commission spring forecast. The deterioration is a result of weaker revenue related to the worsened growth outlook, but also of higher-than-expected expenditure on the one-off investment projects back-loaded from 2011 (1.7% of GDP according to the national projections). Risks to the fiscal target for 2012 seem balanced overall, with the authorities' macroeconomic projections being realistic.

For 2013, the programme targets a nominal budget deficit of 0.7% of GDP. The improvement on 2012 primarily stems from an improving macroeconomic outlook and gradual completion of the Kyoto investment projects. The new target is significantly different from the surplus of 0.1% targeted in the 2011 stability programme, mainly due to the negative base effect from 2012. The authorities intend to hold back growth in government consumption expenditure, which is set to increase at a slower rate than nominal GDP over the whole programme period, in line with the Commission spring forecast. Compared with 2012, expenditure as a share of GDP is expected to decline in all areas with the exception of health care. The projected consolidation is also supported by the planned revenue-increasing discretionary measures (see Box 1).

Box 1. Main budgetary measures

Revenue	Expenditure
2012	
Abolishing reduced excise duty rates for special-purpose diesel fuel (net effect 0.4% of GDP*) Increasing tobacco excise duty rate by 10% (0.1% of GDP) Increasing alcohol excise duty rate by 5% (0.1% of GDP)	n.a.
2013	
Lowering unemployment insurance contributions from 4.2% to 3% (-0.3% of GDP) Increasing tobacco excise duty rate by 10% (0.06% of GDP)	n.a.

Note: The budgetary impact in this table is the impact reported in the programme, i.e. by the national authorities. A plus sign means that revenue/expenditure increases/decreases, as a consequence of the measure.
** As estimated by the Commission*

For 2014-16, the programme targets a continuous improvement in the nominal balance through a gradual build-up of headline surpluses to 0.9% of GDP in 2016. Revenue as a share of GDP is set to remain higher than expenditure in the outer years of the programme, declining by 3.5 pps of GDP between 2011 and 2015 as a result of the phasing-out of the EU structural funds, the reversal of temporary consolidation measures and the planned cut of personal income tax in 2015. While this strategy is subject to risks — related to both macroeconomic developments and implementation of the strategy — these risks can be assessed as broadly neutral, in particular given the solid track record of the authorities in meeting the previous targets.

The structural balance[4] is expected to improve by 0.3 % of GDP in 2013 reaching a balanced position according to the programme.[5] In 2014 and 2015, the programme targets a continuous improvement in the structural balance, reaching a surplus of 0.8 % of GDP in 2015. The programme forecasts continuous attainment of the MTO over the whole programme period with the exception of 2012. The improvement in the (recalculated) structural balance corresponding to these targets complies with the requirement for an annual improvement of 0.5 % of GDP in 2013 in accordance with the national projections, while it falls slightly short of the requirement in the Commission spring forecast. Nevertheless, both estimates show a significant improvement in the structural balance compared with the deterioration in 2012. Moreover, the estimates should be seen against the uncertainties related to determination of the cyclical position in real time for countries undergoing significant structural adjustments, the ambitious MTO set by the Estonian authorities and the relative closeness of the structural balance to the MTO. Based on the information provided in the programme, the expenditure benchmark will be met in every year, except in 2013 when the MTO is to be reached according to the (recalculated) structural balance estimates and for a minor deviation from the benchmark in 2014. Using the Commission's estimate of the discretionary impact, the deviation would be above the expenditure benchmark in 2012 and below it in 2013.

According to the programme, the general government debt, which is the lowest in the EU, is projected to increase somewhat, peaking at 11 % of GDP in 2013, before gradually declining to 9.5 % in 2016. This profile reflects an accumulation of financial assets due to nominal surpluses after 2013.

Long-term sustainability

Estonia has a very low level of government debt. Under a no-policy change assumption, debt would increase to 14.6 % of GDP by 2020.[6] The long-term increase in age-related expenditure is below the EU average.. Although recent reform measures undertaken in the field of pensions would reduce sustainability risks, the projected decline in the benefit ratio could pose a risk to the adequacy of pension entitlements. Ensuring sufficient primary surpluses over the medium term would improve the sustainability of public finances.

Fiscal framework

The strength of the current fiscal framework lies in the long-standing commitment to the 'soft' budget balance rule applying to the general government balance. Although the rule has not been formalised in law, all Estonian governments have adhered to it, except in 2008-09. As the rule was adapted only recently to take account of cyclical elements, there are no mechanisms in place that would limit expenditure growth when economic growth is above potential. In 2011, the government committed itself to formalising the budget balance (or surplus) rule in the State Budget Law before summer 2012 (Euro Plus Pact commitment). No real progress has been achieved to date, given the intentions of the government to take full account of the new governance rules adopted at EU level.

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[4] Cyclically-adjusted balance net of one-off and temporary measures, recalculated by the Commission services on the basis of the information provided in the programme using the commonly agreed methodology.

[5] Compared with the recalculated structural balance, the programme forecasts higher structural budgetary improvement by 0.6 % of GDP in 2013 and by 0.3 % of GDP on average in 2014-16. The discrepancy is mainly due to a different assessment of the starting cyclical position of the economy between the common methodology and the approach taken in the programme. Subsequently, the programme attributes a higher share of the targeted nominal improvement to the structural component than in the recalculated information.

[6] Although the initial budgetary position adds to the long-term costs due to conservative assumptions regarding potential growth embedded in the common methodology.

The balanced-budget rule is complemented by a debt rule applicable at the level of local government. A new Law on financial management of local governments in force as of 2012 provides a basis for a medium- to long-term financing framework. It modernises and increases the transparency of financial governance and includes provisions on enforcement of fiscal discipline. It also sets a net debt ceiling of 60 % to 100 % of revenue from the main activities in the current fiscal year[7] on borrowing by local governments and dependent units, with no escape clauses. Responsibility for monitoring and enforcing the rule lies with the Ministry of Finance.

Finally, the medium-term budgetary framework in place provides a basis for planning beyond the next year's budget. However, the expenditure limits set in the framework are indicative and can be revised in the following year's update. In order to prevent pro-cyclical fiscal loosening in years of high economic growth, the expenditure ceilings could be made more binding and augmented by multi-annual expenditure rules. The same applies to the system for monitoring and reporting on the strategic targets, including elements of public accountability.

Tax system

Estonia's tax-to-GDP ratio, which stood at 34.2 % in 2010, is below the EU average, based on low nominal tax rates, and is relatively skewed towards taxes on consumption. The taxation policy is framed in terms of a simple tax system and a broad tax base. The tax burden on consumption, as measured by its implicit tax rate, was 25.6 % in 2010, among the highest in the EU. The 37 % implicit tax rate on labour is somewhat above the EU average. By contrast, taxes on businesses, on corporate income and on capital stocks are well below the EU averages. Overall, the implicit tax rate of 9.1 % on capital is lower than 28.8 % in the EU-25.

In 2011, Estonia adopted a package of legislative proposals that move in the direction of implementing the Council recommendations to reduce the tax burden on labour, provide incentives to increase participation in lifelong learning and reduce incentives to borrow. They include reducing personal and corporate income tax rates by one percentage point (to 20 %) as of 2015, abolishing the fringe-benefit tax on work–related studies as of 2012 and lowering the ceiling for total income tax deductibility (related in particular to mortgage interest payments) by about 40 % as of 2012 (see section 3.2.). These reforms were among Estonia's Euro Plus Pact commitments and have been fully implemented.

On the other hand, Estonia has also abolished the land tax on small and medium-sized residential plots from 2013, if the primary residence of the taxpayer is located on that land (see section 3.2.). While the fiscal effect of this measure is rather small (-0.09 %), it weakens the counter-cyclical effects in the housing sector. It also reduces the policy potential to strengthen and diversify budgetary revenue without harming growth.[8]

Environmental taxes are dominated by motor fuel taxation and pollution and resource taxes, but have been ineffective so far (see section 3.4.). Introducing or tightening taxation measures on other sources of energy and also on transport and waste (e.g. road tax, annual tax on motor vehicle use, energy consumption-linked taxes on ownership or registration of motor vehicles or landfill taxes) could help to achieve environmental goals while providing room for a further tax shift away from labour. In 2011, Estonia enacted

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[7] Revenue including transfers but excluding net revenue from sales of fixed assets, financial revenue and earmarked grants for acquisition of fixed assets.

[8] See, for example, European Commission (2011), Tax reforms in EU Member States 2011, European Economy No 5. See also OECD (2011), Economic Survey of Estonia, plus the earlier analysis by the Commission (Commission Staff Working Paper SEC(2011) 715/final).

the first stage of a comprehensive reform of the preferential excise taxation system for motor fuels, narrowing the applicability of the preferential excise rate. This measure is expected to reduce market distortions, minimise fraud and create incentives to improve energy efficiency.

Most policy indicators show that, due to the simple tax administration and widespread use of e-government, Estonia has relatively low costs of tax compliance. There is a broad consensus that the relative share of informal work is about 10 % of the labour force, which is below the EU average. However, available estimates of the potential size of the shadow economy vary greatly from 4 % (National Statistical Office) to around 30 % of GDP,[9] providing contradictory messages about the importance of this issue for Estonia. It should be added that some features of the Estonian tax system could induce tax evasion, such as the fact that social contributions are paid by the employers or the differences in the tax treatment of employees and self-employed. Estonia intends to extend the powers of the Tax Office to fight tax evasion, with its stability programme mentioning electronic receipts, mandatory registration of employees and taxing individuals importing goods from outside the EU which are liable to excise as areas where tax collection can be improved.

3.2. Financial sector

Financial stability

Estonia's banking sector is sound, with strong capital buffers (capital adequacy ratio approximately 16.9 %), high provision coverage and a decreasing non-performing loans level (5.1 %). However, credit growth is recovering and may accelerate since real interest rates are negative and the reserve requirement for banks is low, while there is no regulation on the maximum loan-to-value ratio for mortgages. This could reverse the decline in private-sector indebtedness relatively soon. Also, Estonia's economy is inherently volatile. Therefore, promoting savings as a means to support the on-going deleveraging of private operators and prevent recurring imbalances on the housing and mortgage markets remains desirable, and the tax system can have effects in this respect. **In June 2011, the Estonian authorities fully implemented their national reform** programme **and Euro Plus Pact commitment to lower the ceiling for the total income tax exemption** (see section 3.1.),[10] including the tax deductibility of mortgage interest payments, thereby reducing the fiscal incentives to borrow and limiting the risk of recurring real estate-related overheating and overall instability. However, in parallel, the Estonian authorities reduced the base of the land tax (see section 3.1.), which could have a limited, but opposite, effect. Moreover, there is no further talk at this stage of a revaluation of the theoretical land prices used as a basis for the existing land tax which date back to 2001. Nevertheless, as reflected in the national reform programme, depending on the impact of the measures that will enter into force in 2012, the Estonian authorities are expected to continue withdrawing the remaining incentives to borrow: partial deductibility of mortgage interest payments and loan guarantees.[11] **Given the remaining challenge with respect to medium-term macrofinancial stability, further formal commitments in this area will be welcome.**

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[9] Schneider et al. (2010) 'Shadow economies all over the world: new estimates for 162 countries from 1999-2007', World Bank policy research working paper No 5356.

[10] From EUR 3 196 to EUR 1 920.

[11] Housing loan guarantees provided by the Credit and Export Guarantee Fund (Kredex).

Households' limited level of financial education and the predominantly adjustable-rate mortgages remain causes for concern, as they expose households to risks of excessive leverage and over-indebtedness. These can also generate systemic risks related to more volatile house prices, excessive house price levels and overall instability.

Access to finance

The **access of small and medium-sized enterprises to financing** could remain problematic, especially as market failures were identified in this area in the past. While credit remains tight, banks complain that strong industrial/business projects to be financed are scarce. This is partly due to the lack of innovation, as a result of relatively poor cooperation between universities and enterprises and also to a persistent lack of highly qualified engineers and of information and communication technology (ICT) specialists. Moreover, a substantial number of companies are likely to be currently involved in the informal economy and tax evasion and, consequently, are unable to secure traditional financing.[12] At the same time, small companies and start-ups complain that banks are becoming stricter about the collateral required,[13] hence the need to design real support for microenterprises, which in general have a much harder time gaining access to financial support schemes.

Nevertheless, Estonia has made some progress to improve credit financing and access to venture capital through programmes receiving structural funding and state support. In particular, Enterprise Estonia has been offering start-up and development grants and is launching a new 'Start-up Estonia' scheme (Euro Plus Pact) with the aim of training fast-growing start-ups on how to secure funding from the market. In addition, Kredex has been providing business and start-up loan guarantees and export guarantees and is launching a new technology loan. In terms of venture capital, the Estonian Development Fund is specialised in early-stage venture capital investments. Furthermore, a totally new venture capital fund[14] targeting seed and start-up financing is being set up, with the support of the governments of the three Baltic countries (Euro Plus Pact). Finally, a 2012 Pact commitment aims to simplify and target existing assistance schemes better as well as to switch from grants to loans to reach a larger number of enterprises.

Overall, given the problems with gaining access to both credit financing and equity capital and the need to increase knowledge transfer and limit debt-exposure, there is room for further improvement in promoting Estonian small and medium-sized enterprises among potential foreign investors. In particular, contacts with foreign 'business angels' associations could be developed and their activities within Estonia coordinated.

3.3. Labour market, education and social policy

Labour market and social policy

In response to the recommendation on taking steps to support labour demand and to reduce the risk of poverty and to the Euro Plus Pact commitments, the government has undertaken reforms that are relevant and effective in the Estonian context and that can have both short- and medium-term effects. Measures have already been approved by Parliament or by the government and are therefore highly credible in terms of expected follow-up. In particular, as indicated in section 3.1, Estonia has decided to lower the personal income tax rate from 2015 and has abolished the fringe-benefit tax on work–

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[12] As banks rightly refuse any candidate with 'double accounting sheets'.
[13] The loan rejection rate is approximately 30%, in part due to the bad quality of business plans.
[14] The Baltic Investment Fund.

related studies as of 2012. It is also progressing on guaranteeing the sustainability and adequacy of pensions: in 2011, it took the first decisions on the reform of special and old-age pensions under favourable conditions, during the first half of 2012 it will work out the principles and timetable for further reforms and from 2012 it has fully restored payments to the compulsory funded pension scheme. In a new Euro Plus Pact commitment, the government has committed itself to lowering unemployment insurance contribution rates from 2013, which will reduce the tax burden on both employers and employees. On this basis, and in anticipation of the lowering of the unemployment insurance contribution rates, **the part of the recommendation related to 'tax reduction' is considered as partly implemented.**

In parallel, the government is making efforts to reduce the high unemployment, especially youth and long-term unemployment, by regularly assessing the situation and updating measures accordingly, e.g. adopting a new Employment Programme for 2012-2013 supported by new national reform programme commitments. Active labour market policy measures have worked for general unemployment, especially youth unemployment, which has almost halved from its peak in 2010, while the employment rate for those aged 20-64 already exceeds 70 %, showing good progress towards the headline target of 76 % by 2020. However, the measures have not been particularly effective for the long-term unemployed, nor has the up-skilling in regions with high unemployment. Further attention is needed in order to lower youth, low-skilled and/or long-term unemployment further and to improve cooperation between local governments and unemployment service providers. Developing regional career centres to provide stronger career counselling and career information could also improve the situation. **Therefore, the part of the recommendation on labour market policies is also considered as only partly implemented,** even though new national reform programme and Euro Plus Pact commitments in 2012 are expected to bring positive developments in this respect.

Given the persistently high long-term unemployment, the **poverty risk** of children in jobless households is starting to increase, while the number of children needing social assistance has more than doubled over the last five years.[15] The Children's and Families' Development Plan for 2012–2020, together with implementing measures, has the general purpose of improving the welfare and living standards of children and families. However, the existing additional basic income tax exemption for families, starting from second child is largely inefficient in reducing child poverty, as it depends on taxable income and, therefore, it is less available for families with low revenue. Moreover, the fragmented local governments are inefficient in providing access to social services to contain the spread of poverty. In all, **emphasis could be put on extending access to services for households and children, particularly those with low work-intensity.**

Regarding the **national Europe 2020 targets**, two areas require further attention: employment and reduction of poverty/social exclusion. Estonia's target for **employment** of those aged 20-64 is set at 76 %, which means bringing some 38 000 more people onto the labour market in comparison with 2009. This could be achieved with well-targeted measures for the young unemployed, the low-skilled, the long-term unemployed and elderly workers, combined with measures addressing regions with high unemployment and others aimed at improving childcare provision for children aged under three (see also under 'Education policies'). Considering the recent developments and the new measures envisaged in the 2012-2013 Programme for Employment, the target remains ambitious,

[15] From 858 children in 2005 to 2 000 in 2011.

but achievable. The targets set for **reduction of poverty and social exclusion** will pose a serious challenge, but are also achievable if social services, including family services, are made more efficient and targeted and if the plans for raising education and skills levels are implemented in full.

As for the *Annual Growth Survey 2012 priorities*, since the economy is emerging from a deep recession with high long-term unemployment, the efficiency and coverage of labour market policies require particular attention. **Skills mismatches** pose a risk that the currently high long-term unemployment could become structural. Also, there is scope for reducing the **unemployment and inactivity traps**, which are especially dangerous for the low-skilled and persons on low wages, but also for families with children. Social benefits targeted on the unemployed (unemployment insurance benefits, unemployment allowances and subsistence benefits) lack the flexibility necessary to promote labour supply from those currently unemployed and facilitate their return to working life. Furthermore, the **parental benefit system** in Estonia is relatively costly (1.1 % of GDP in 2011), being one of the most generous in Europe in terms of both duration and amounts. This puts disproportionally high emphasis on the first 18 months of age,[16] while the supply of childcare services for children under three is insufficient (see above). In particular, the high benefit level[17] creates distortionary labour market effects. Less generous and redesigned parental benefits could contribute to increasing labour supply without having a negative impact on birth rates, while improving the quality of public spending. Finally, there is scope for **bringing disabled people back onto the labour market,** and keeping them there, in order to contain the rising take-up of disability benefits and incapacity-for-work pensions. Indeed, the labour market exits for long-term health-related absences in Estonia are 10 pps higher than the EU average and the number of people receiving incapacity-for-work pensions has almost doubled within ten years. This, over and above well-being aspects, puts pressure on public finances. New national reform programme measures and a Euro Plus Pact commitment in 2012 aim to reform the insurance scheme for incapacity for work and to establish an occupational and professional health insurance scheme, while a 'Green Paper on family benefits and services' has been announced.

Education policies

As regards the **recommendation on the reform of the education system**, participation in early education has increased over the last decade and Estonia is performing better than the EU average, but a gap exists in early childcare (for 1.5- to 3-year olds), with an adverse effect on the employability of young parents and a negative impact on an already high **gender pay gap**. However, as reflected in the 2012 national reform programme, a recent draft reform of the Pre-School Act presented by the Ministry of Education and Research proposes to establish day-care facilities at public primary schools throughout the country and make them more accessible for families. Local authorities would be given financial support for creating new places and new facilities. The government's plans appear relevant and ambitious, but the necessary changes to the Law on Pre-School Child Institutions are not expected to be adopted before mid-2012 to 2013. Therefore, **the part of the recommendation on pre-school education is only partly fulfilled.**

As for the part of the recommendation calling for enhancing the quality and availability of vocational education, Estonia has a dual objective: increase the adult

[16] Parental benefit expenditure accounts for 63 % of the total family benefit expenditure.

[17] For example, duration of 18 months, ceilings equal to three times the average wage and 100 % replacement rate based on previous wage. Disincentives to work are aggravated by the high effective tax rates on additional labour income for recipients of parental benefit.

participation rate in **lifelong learning** (25-64 year group) to 20 % and reduce the share of adults without professional education or vocational training to below 30 % by 2020. Both of these objectives are in line with the recommendation.[18] Moreover, the ongoing revision of the Adult Training Act could improve the system in general and give adults greater access to lifelong learning, which is a major challenge for Estonia. The lifelong learning objective is far from being attained. However, there has been a continuous increase in participation rates over the years, with the adult participation rate above the EU average in 2011. Nevertheless, participation by low-skilled persons in education and training remains low (3.5 % in 2011).

Around 32 % of the labour force has no professional education. Reaching the 30 % target by 2020 appears ambitious but attainable. In 2011, the opportunities for participating in **vocational education and training** were extended to persons with no prior qualifications and to older workers. Also, the government has decided to plan the number of available study places in both general and vocational tuition. Other measures include the adoption and implementation of the revised Vocational Education Institutions Act (VET Act), raising the quality of vocational education through further teacher training and more relevant vocational curricula, with further attention to more work-based schemes. Another high priority is the increase already planned in the financing of vocational education. However, the revision of the VET Act will not come into force until June 2013, supported by commitments in the 2012 national reform programme and the Euro Plus Pact. Further new commitments aim to improve the quality of the education system, notably through reorganising the upper-secondary schools network as required by demographic trends in Estonia, thereby ensuring higher efficiency in public spending. Nevertheless, **given the mixed progress on lifelong learning and on the vocational education and training reform so far, this part of the recommendation is considered as partly fulfilled.**

At **tertiary education level**, which is covered by the last part of the recommendation, performance agreements to be signed with higher education institutions under the latest reform could help steer study outcomes towards fields required by the economy. Further stress will be laid on turning out more graduates in mathematics, science and technology, in particular in information and communication technologies, where there is strong labour market demand. Measures planned by the authorities are expected to be effective, showing a certain degree of ambition, and supported by a specific commitment in the 2012 national reform programme. Pilot projects have already started and their continuity may be supported under the next European Social Fund programme. However, at this stage, specific target groups, such as low-skilled workers, do not seem to be a priority. **Therefore, the part of the recommendation on bringing the education outcomes closer to labour market needs can be considered as partly fulfilled.**

In relation to the 2011 Euro Plus Pact commitments, the fringe-benefit tax on work-related studies has been abolished (see section 3.1.) and, in early 2012, the Estonian Parliament adopted a comprehensive reform of higher education (Euro Plus Pact) (see above).[19-20] The reform is, however, pending, subject to scrutiny on constitutional grounds.

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[18] The number of people with no vocational education or training is highest in the youngest age group, among those aged 25-34 (35 % in 2010).

[19] Under the law due to enter into force in January 2013, higher education institutions will be allocated support from the state budget, which, as a rule, will not be tied to specific student slots or the number of graduates. Students must collect 30 credit points per semester in order to be entitled to free tuition (see above for the assessment).

Regarding the national Europe 2020 targets, **early school leaving** is perceived as one of the major challenges in education,[21] even though the rate is slightly lower than the EU average. Therefore, the government recently updated its general education development plan (2007-2013) with a view to improving the quality and efficiency of the education system and reducing the number of school drop-outs. It has also started implementing the national early school leaving tracking mechanism and is preparing further measures, including adaptation of the VET Act (see above and new national reform programme commitments). Finally, the tertiary education target (40 %) was reached in 2010 already, but further efforts will be needed to maintain the level attained.

3.4. Structural measures promoting growth and competitiveness

Energy, transport, infrastructure and the environment

To implement the **recommendation on energy**, Estonia has taken several measures to reduce energy intensity and increase energy efficiency, including investments in the building and transport sectors, and has started a reform of the legislation governing the energy market.[22] However, because of the ongoing shift of passenger transport from public transport to private cars and of freight transport from rail to road, the energy intensity of the transport sector and the ensuing greenhouse gas emissions are expected to grow. Consequently, the measures proposed by the National Energy Efficiency Action Plan,[23] although fully relevant, are insufficient.[24] Moreover, in 2010, the fleet of new cars in Estonia was one of the most energy-intensive in the EU. Finally, the fuel excise duties, which are considered the primary instrument for influencing energy use in the transport sector, have been ineffective in shifting consumer patterns. At the same time, Estonia has no energy consumption-linked taxes on ownership or registration of motor vehicles (except for heavy goods vehicles). **As a result, the implementation of the recommendation can be considered as only partial,** even though a number of new measures in the 2012 national reform programme and two new Euro Plus Pact commitments, one on buildings and another one on transport, reflect solid political determination. In particular, the country still lacks an ambitious transport and spatial planning strategy, with a particular focus on effective enhancement of public transport and an upgrade of rail infrastructure. Energy consumption-based taxation of vehicles could also be considered. As a result, the challenges identified by the 2011 recommendation still apply.

Estonia still suffers from the relative isolation of its energy networks, notably from those of the EU (gas) and/or Finland (electricity). In this respect, Estonia's energy supply could be diversified by participation in a regional liquefied natural gas terminal, completion of an electricity interconnection with Finland and a stronger connection with Latvia. The electricity infrastructure within Estonia could also be upgraded to integrate increasing amounts of wind energy. Finally, transposition of several energy-related EU directives

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[20] Future reforms in higher education may need to respond to the challenge of making the tertiary education sector more cost-effective. This would require a reduction in the number of tertiary education institutions and a clearer division of labour between the different institutions, coupled with a clearer definition of their competences.

[21] Dropping-out of school usually concerns boys and is most common among students in the final year of basic school (9th year) and the first year of secondary school. The drop-out rate among men (15 %) is twice as high as among women and is higher in vocational education with a yearly rate of over 20 %.

[22] Estonia's recent investment efforts to increase energy efficiency and reduce GHG emissions total about EUR 300 m. In the road transport sector, 150 new trams and buses with higher energy efficiency will be purchased. Also, electric cars are being purchased and nationwide charging infrastructure is being developed.

[23] Stricter public procurement criteria, support schemes for electric cars and public awareness.

[24] Although the Transport Development Plan for 2005-2013 set a target of increasing the number of trips made by public transport, in reality the volume has decreased by more than 10 %.

has not yet been completed nor has the necessary specific legislation[25] been adopted and implemented, while the powers of the national energy regulator(s) could be strengthened. Maintaining a coherent, stable and predictable renewable energy support framework is also important. In particular, avoiding possible retroactive changes to the existing support schemes prevents a negative effect on overall investor confidence. Finally, the benefits arising from Estonia's energy efficiency investments could be increased by additional enabling measures to improve the legal and fiscal framework for the provision of energy services and energy performance contracting and to introduce market-based instruments (e.g. an energy-saving obligation scheme).

As regards ***climate policy***, Estonia is expected to over-achieve its emission target by 2020.[26] However, as long as the trends in modal split remain unfavourable, there is no assurance that the energy intensity of the transport sector has actually improved. Therefore, **while the Estonian authorities have to be commended for the efforts made so far in the energy area, close monitoring of the emissions trend is still required, in particular — given their weight in national emissions and the current trend — in the road transport and agriculture sectors.**

One of the main environmental challenges is ***waste management***, with more than 70 % of the total waste generated by the oil shale and energy industries. The importance of oil shale as an energy source adds to the need to reduce the waste which it generates and develop an economic incentive to use the waste accumulated from the oil shale already mined. Here, the introduction of a royalty on the production of oil shale from 2013 (see 2012 national reform programme) can be noted. In parallel, Estonia is unlikely to meet the 2020 recycling targets for municipal waste without creating the infrastructure required for waste management. Finally, the producer responsibility in place is not able to cover the full costs of separate collection, sorting and recycling of the main waste streams, while the pay-as-you-throw scheme covers only a limited part of the country.

Given Estonia's geographical position, ***transport and transit*** are key factors in the country's economy. Although the coverage of infrastructure networks is generally adequate, their quality is often not satisfactory.[27] While infrastructure investments have been a priority for Estonia, as reflected in a number of new commitments in the 2012 national reform programme, the availability of intermodal connection points (especially linking ports and railways), the interoperability of transport systems and infrastructure/logistics hubs remain concerns. At a time of scarce public funds, careful planning and prioritisation of projects is crucial to maximise their economic outcome. Public transport in regions and small cities faces several problems such as the fragmented market/approach, inadequate quality of service and ineffective subsidisation system.

Research and innovation

The *R&D intensity target* (3 % with a milestone of 2 % in 2015) **is ambitious and achievable,** but only if business R&D grows significantly and Estonia is able to attract more R&D-intensive foreign direct investment. The next multi-annual budget and, especially, cohesion funds, are expected to play an important role as well. The government should aim to sustain the long-term benefits of the investment. In general, the R&I system is too fragmented and its governance[28] could be improved. Moreover,

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[25] On renewable energy, electricity and gas.

[26] In its 2011 report the European Environment Agency concluded that Estonia might be one of the 11 Member States on track to achieve its individual target for 2020.

[27] The World Bank Global Logistics Performance Index ranks Estonia 43rd, with its weakest point being infrastructure. Finland, for example, is ranked 12th.

[28] Notably, the role of the Research and Development Council.

Estonia lacks a comprehensive research and innovation strategy that would identify knowledge-intensive sectors that could push the country up on the international value chain and give access to wider markets. A research and innovation strategy for smart specialisation could concentrate public resources on a more limited number of fields of science and technology that reflect Estonia's strengths, as identified by international benchmarking. This could ensure that the EU cohesion funds are used more efficiently, creating synergies between public and private investments and EU, national and regional policies.[29] Such a strategy for smart specialisation could address the following major weaknesses for business R&I: first, as the knowledge-intensive private sector is underdeveloped, additional measures appear necessary to support the creation and development of fast-growing innovative firms.[30] Second, cooperation between businesses and academia continues to be weak: enterprises could be encouraged to take up research output, particularly for boosting the productivity of existing industries, and universities could be given incentives to promote an efficient knowledge transfer to the market. Third, as there is an insufficient supply of highly skilled human capital (e.g. engineers and ICT professionals), there is a pressing need to create the right incentives and training schemes and to develop an academic culture that nurtures innovation and skills.

Internal market and competition

As regards the ***business environment***, the administrative burden for enterprises, especially permits and licences, but also costs to start up a company, could be further reduced. Also, municipalities have no clear rules for issuing construction permits and/or protecting the public interest when needed. The e-bookkeeping platform, when operational, will put Estonia at the forefront of e-government use. Companies, especially smaller ones, still encounter difficulties in dealing with insolvency processes. Finally, Estonia would benefit from extending transposition of the late payments directive to all transactions involving public authorities, businesses, banks and individuals.

As regards ***public procurement,*** the tendering procedure is relatively slow and not fully transparent. To address this, the Law on Public Procurement has been amended to make e-procurement mandatory as from 2013, including submission of documents online. However, participation by companies in public procurement continues to be low, due to the fact that even slightly indebted companies are rejected under the tendering procedure, while the frequent changes to the procedure have not encouraged companies to build up procurement capability.

The overall efficiency of ***state aid*** enforcement in Estonia shows two weaknesses: there is no external vetting of domestic State aid, while the country also lacks a central State aid registry. Stronger internal scrutiny and compliance mechanisms would therefore be needed to prevent a weakening of the public expenditure monitoring and to avoid lengthy State aid cases and also incompatible aid cases.

3.5. Modernisation of public administration

The provision and use of e-government services in Estonia is more advanced than in the EU on average: public services are available online for 90 % of the citizens, while the figure for businesses is 100 %. More importantly, the Estonian public administration has demonstrated its capacity to respond rapidly and successfully to the global financial and economic crisis by proceeding with the necessary budget consolidation and fostering

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[29] In particular, there is a need for better coordination within the country and with neighbouring Member States, especially in the context of the EU Strategy for the Baltic Sea Region.

[30] Improvements in the existing competence centres, knowledge transfer offices, incubators and cluster programmes, innovation vouchers and support offered by Enterprise Estonia, Kredex and the Estonian Development Fund.

structural reforms. In order to maintain and improve this capacity in the changing socio-economic context, further reforms are, however, necessary.[31]

The **new Civil Service Law** modernising public administration was approved by the government on 1 March 2012 and is expected to be adopted by Parliament by June. The new law will decrease the number of civil servants, make the salary system more comprehensible and transparent and launch the rotation system in public administration. Independent of the reform, the salary funds for civil servants are frozen up to 2014. In parallel, new national reform programme and Euro Plus Pact commitments in 2012 aim to increase the quality of the financial reporting by the state, while another aims to improve the systems for managing EU structural funds. To fight fraud and corruption, a new **Anti-corruption Act** is currently before Parliament. A **Public Service Code of Ethics** is in the making as well.

There is also a longer-term need to pursue the **reform of local government** to ensure better provision of public services and make optimum use of the relatively fragmented resources. Currently, assessments conclude that most of the local governments are finding it difficult to deliver to everyone the social, health and education services they need.[32-33] Local governments appear to be too small to meet the obligations placed on them by law. However, there is no political support in Estonia for an overall reform that would reduce the number of local governments, but which could allow more efficient provision of services.[34] Nevertheless, as recommended by the OECD in 2010, Estonia is planning to look at reforms in different sectors (education, social services, health, waste management and public transport) and to consider the best measures to take in order to provide these services more efficiently at local level.

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[31] Well-performing institutions have a strong long-term effect on economic outcomes and the behaviour of businesses, whereas a large informal economy is considered to be an indicator of poor public institutions (see section 2.2.).

[32] The local governments bear primary responsibility for education up to secondary level (excluding vocational education), for organising transport and social services and for cultural events.

[33] In particular, the system of ownership of upper-secondary schools (local governments) does not guarantee universal access to quality education throughout the country and, thereby, creates inequalities between students from cities and the regions with regard to access to higher education.

[34] Currently there are 226 municipalities for a population of 1.3 million.

4. OVERVIEW TABLE

2011 commitments	Summary assessment
Country-specific recommendations (CSRs)	
CSR 1: Achieve structural surplus by 2013 at the latest, while limiting the deficit in 2012 to at most 2.1 % of GDP, keeping tight control over expenditure and enhancing the efficiency of public spending.	Estonia has partly implemented the CSR: the 2012 programme forecasts a deficit of 2.6 % of GDP in 2012, which is bigger than projected both in the 2011 stability programme and in the Commission spring forecast. However, the deterioration is a result of weaker revenue related to the worsened growth outlook, but also of higher-than-expected expenditure on the one-off investment projects back-loaded from 2011 (1.7 % of GDP according to the national projections). The structural balance is expected to improve by 0.3 % of GDP in 2013 reaching a balanced position according to the programme.
CSR 2: Take steps to support labour demand and to reduce the risk of poverty, by reducing the tax and social security burden in a budgetary neutral way, as well as through improving the effectiveness of active labour market policies, including by targeting measures on young people and the long-term unemployed, especially in areas of high unemployment.	Estonia has partly implemented the CSR: a number of steps have been taken in the area of labour taxation. However, the rising take-up of disability and incapacity-for-work benefits has not been addressed. There is a need to put more disabled people back on the labour market. Efforts are being made to reduce the high unemployment, but long-term and youth unemployment are still high and skills levels are expected to become a bottleneck to growth. The CSR needs to be repeated and the part on poverty risk needs to focus on groups particularly exposed.
CSR 3: Ensure implementation of planned incentives to reduce energy intensity and improve the energy efficiency of the economy, targeted on the buildings and transport sectors, including by ensuring better market functioning.	Estonia has partly implemented the CSR: the measures in the National Energy Efficiency Action Plan are fully relevant, but are insufficient given the modal shift away from public transport. Also, the new cars fleet is the most energy-intensive in the EU. Finally, fuel excise duties are insufficient to shift consumer patterns. Therefore, the challenge still applies and the CSR needs to be repeated.
CSR 4: While implementing the education system reform, give priority to measures improving the availability of pre-school education, and enhance the quality and availability of professional education. Focus education outcomes more on labour market needs, and provide opportunities for low-skilled workers to take part in lifelong learning.	Estonia has partly implemented the CSR: the quality and availability of vocational education have improved and more measures are planned. Participation in lifelong learning is picking up, but with insufficient focus on low-skilled workers. Problems with matching education outcomes to labour market needs are continuing. There is an urgent need to reform the upper-secondary education/school system. Further attention needs to be paid to provision of public services by local authorities. Overall, the CSR needs to be repeated and adjusted.
Euro Plus Pact (national commitments and progress)	
Commitments related to public finance: lower the annual upper limit for income tax exemptions to EUR 1 920; first phase of the reform of special pension schemes; achieve a budget balance in 2013 and a budget surplus in 2014; include a public-sector budget balance requirement in the basic state budget law.	The new annual upper limit for income tax exemptions was approved by Parliament in mid-2011. The other three commitments are still pending: the first phase of the reform of special pension schemes is expected to be adopted by Parliament by summer 2012. The planned budget balance in 2013 and surplus in 2014 have been introduced into the State Budgetary Strategy. However, this strategy is revised annually, while an actual budget balance and surplus can be achieved only in 2013 and 2014.
Commitments to foster employment: adopt the law to reduce the personal income tax rate from 21 % to 20 % (from 2015); abolish the fringe-benefits tax on work-related studies.	For these two Euro Plus Pact commitments, the necessary legislative amendments were adopted in mid-2011.

Commitments to foster competitiveness: reform civil service benefits and increase the transparency of the wage system; implement the higher education reform; launch a start-up programme for innovative enterprises.	The first two Euro Plus Pact commitments aimed to foster competitiveness are expected to be fully implemented soon, with the necessary legislation expected to be adopted by Parliament by summer 2012. The third commitment has been fully implemented, with the new start-up programmes for innovative enterprises already approved by the government, and is operational.
Europe 2020 (national targets and progress)	
Employment rate target set in the 2011 national reform programme: 76%	*66.4% in 2010 and 70.1% in 2011.* Challenging but achievable with well-targeted measures for the young unemployed, the low-skilled, the long-term unemployed and elderly workers combined with addressing regions with high unemployment and childcare provision for children under three.
R&D target set in the 2011 national reform programme: 3.0%	*1.42% of GDP in 2009 and 1.63% in 2010 (0.81% public, 0.82% private).* Ambitious, but achievable, but only if business R&D grows significantly and Estonia is able to attract more R&D-intensive foreign direct investment.
Greenhouse gas emissions target: -11%[35]	*-4%* greenhouse gas emissions, base year 1990. Overachievement possible, but close monitoring still required, in particular in road transport and agriculture.
Renewable energy sources (RES) target set in the 2011 national reform programme: 25%	*23% in 2009 (EUROSTAT 2009) and 24% in 2010 (national RES progress report).* Well on track towards the overall RES target: Estonia has already achieved its 2011/2012 interim target, but is lagging behind on the 10% binding RES target for transport.
Energy efficiency — Reduction in [primary] energy consumption by 2020: medium-term objective 0.71 Mtoe	The energy efficiency objectives are based on national circumstances and national formulations. As the method to express the impact of these objectives on energy consumption in 2020 in the same format was agreed only recently, the Commission is not yet able to present this overview.
Early school leaving (ESL) target: 9.5%	*13.9% (2009) and 11.6% (2010).* This is one of the biggest challenges in education and is being addressed through several initiatives (ESL tracking mechanism, etc.). Ambitious, but achievable.
Tertiary education target: 40%	*35.9% (2009) and 40.0% (2010).* National target already reached, but may reflect a relative lack of ambition.
Target on the reduction of population at risk of poverty or social exclusion in number of persons: reduce the at-risk-of-poverty rate (after social transfers) to 15% (from 17.5% in 2010)	*58000 (2009).* Reaching the adopted targets will constitute a serious challenge, but seems achievable if social services, including family services, are made more efficient and targeted, and if the plans on raising the education and skill levels are implemented in full.

[35] The national emissions target set in Decision 2009/406/EC (the 'Effort-Sharing Decision') concerns the emissions not covered by the EU emissions trading system. It is expressed as the minimum relative decrease (if negative) or the maximum relative increase (if positive) compared with 2005 levels.

5. ANNEX

Table I. Macroeconomic indicators

	1995-1999	2000-2004	2005-2008	2009	2010	2011	2012	2013
Core indicators								
GDP growth rate	5.7	7.3	5.7	-14.3	2.3	7.6	1.6	3.8
Output gap [1]	-8.4	3.0	9.1	-9.8	-7.7	-1.5	-1.9	-0.8
HICP (annual % change)	10.2	3.5	6.5	0.2	2.7	5.1	3.9	3.4
Domestic demand (annual % change) [2]	6.4	9.7	6.4	-22.3	0.3	11.0	2.5	4.0
Unemployment rate (% of labour force) [3]	10.0	11.2	6.0	13.8	16.9	12.5	11.6	10.5
Gross fixed capital formation (% of GDP)	27.3	28.8	33.3	21.5	18.8	21.5	23.1	23.9
Gross national saving (% of GDP)	20.9	22.3	22.8	23.2	23.9	25.3	24.9	25.6
General government (% of GDP)								
Net lending (+) or net borrowing (-)	**-0.2**	**0.7**	**0.9**	**-2.0**	**0.2**	**1.0**	**-2.4**	**-1.3**
Gross debt	**7.1**	**5.3**	**4.3**	**7.2**	**6.7**	**6.0**	**10.4**	**11.7**
Net financial assets	**34.3**	**29.7**	**29.7**	**29.4**	**36.5**	**n.a**	**n.a**	**n.a**
Total revenue	39.2	35.8	36.0	43.2	40.9	39.2	38.9	38.1
Total expenditure	39.5	35.1	35.2	45.2	40.6	38.2	41.2	39.3
of which: Interest	0.4	0.2	0.2	0.2	0.1	0.1	0.1	0.1
Corporations (% of GDP)								
Net lending (+) or net borrowing (-)	**-7.6**	**-5.6**	**-4.5**	**6.9**	**4.7**	**3.4**	**6.3**	**5.1**
Net financial assets, non-financial corporations	**-105.2**	**-122.9**	**-165.1**	**-184.3**	**-187.7**	**n.a**	**n.a**	**n.a**
Net financial assets, financial corporations	**-7.7**	**-16.5**	**-3.8**	**7.4**	**5.1**	**n.a**	**n.a**	**n.a**
Gross capital formation	20.6	22.5	23.2	8.9	11.9	16.1	14.9	16.4
Gross operating surplus	23.4	30.6	31.1	23.9	29.0	30.7	30.7	31.0
Households and NPISH (% of GDP)								
Net lending (+) or net borrowing (-)	**0.5**	**-3.3**	**-7.6**	**3.0**	**2.6**	**0.9**	**-0.4**	**-1.2**
Net financial assets	**51.1**	**49.2**	**61.4**	**67.3**	**73.6**	**n.a**	**n.a**	**n.a**
Gross wages and salaries	37.5	34.2	36.5	39.3	36.6	36.0	35.9	35.8
Net property income	1.0	2.3	1.7	1.4	3.0	2.0	2.3	1.9
Current transfers received	18.2	15.6	13.0	18.4	17.3	15.4	15.2	14.7
Gross saving	3.9	0.2	-1.1	7.0	5.6	3.6	2.6	2.0
Rest of the world (% of GDP)								
Net lending (+) or net borrowing (-)	**-7.9**	**-8.2**	**-11.4**	**8.1**	**7.4**	**5.1**	**3.4**	**2.5**
Net financial assets	**27.5**	**60.5**	**77.8**	**80.7**	**73.0**	**n.a**	**n.a**	**n.a**
Net exports of goods and services	-8.9	-5.6	-7.6	5.8	6.9	4.9	3.7	3.6
Net primary income from the rest of the world	-0.9	-4.3	-5.3	-2.9	-5.0	-5.1	-4.5	-4.5
Net capital transactions	0.5	0.5	1.3	3.5	3.6	4.5	3.6	2.8
Tradable sector	49.9	49.7	46.0	42.3	45.9	47.0	n.a	n.a
Non-tradable sector	38.5	39.4	42.3	44.0	41.4	40.1	n.a	n.a
of which: Building and construction sector	5.6	5.6	8.6	6.0	5.0	5.5	n.a	n.a
Real effective exchange rate (index, 2000=100)	96.8	107.9	140.7	162.9	151.5	151.0	150.8	153.1
Terms of trade in goods and services (index, 2000=100)	95.9	104.7	113.8	112.2	110.0	107.9	107.4	107.5
Market performance of exports (index, 2000=100)	84.8	100.2	107.5	102.4	113.2	132.7	130.7	131.5

Notes:

[1] The output gap constitutes the gap between actual and potential gross domestic product at 2000 market prices.

[2] The indicator for domestic demand includes stocks.

[3] Unemployed persons are all persons who were not employed, had actively sought work and were ready to begin working immediately or within two weeks. The labour force is the total number of people employed and unemployed. The unemployment rate covers the age group 15-74.

Source :

Commission spring 2012 forecast

Table II. Comparison of macroeconomic developments and forecasts

	2011		2012		2013		2014	2015	2016
	COM	SP	COM	SP	COM	SP	SP	SP	SP
Real GDP (% change)	7.6	7.6	1.6	1.7	3.8	3.0	3.4	3.5	3.5
Private consumption (% change)	4.2	4.4	2.8	2.2	3.0	3.5	3.8	4.7	4.2
Gross fixed capital formation (% change)	26.8	26.8	8.3	14.8	8.2	4.0	8.0	8.2	8.3
Exports of goods and services (% change)	24.9	24.9	1.4	1.0	5.6	5.4	6.3	6.7	6.7
Imports of goods and services (% change)	27.0	27.0	2.3	3.2	5.9	6.1	6.8	7.7	7.7
Contributions to real GDP growth:									
- Final domestic demand	7.6	7.6	3.4	4.5	3.8	2.9	3.9	4.5	4.4
- Change in inventories	2.6	2.6	-1.1	-0.9	0.1	0.5	-0.3	-0.3	-0.1
- Net exports	0.1	0.1	-0.7	-1.9	0.0	-0.5	-0.3	-0.7	-0.9
Output gap[1]	-1.5	-1.4	-1.9	-1.7	-0.8	-1.4	-0.7	0.0	0.6
Employment (% change)	7.0	6.7	0.6	0.7	1.2	1.0	0.6	0.4	0.4
Unemployment rate (%)	12.5	12.5	11.6	11.5	10.5	9.6	8.7	8.3	8.2
Labour productivity (% change)	0.6	0.9	1.0	1.0	2.6	1.9	2.8	3.1	3.1
HICP inflation (%)	5.1	5.1	3.9	3.4	3.4	3.0	2.7	2.7	2.7
GDP deflator (% change)	3.7	3.7	2.9	2.6	2.9	3.1	2.7	2.7	2.7
Comp. of employees (per head, % change)	1.4	1.5	4.0	3.9	5.4	5.0	5.6	5.9	6.2
Net lending/borrowing vis-à-vis the rest of the world (% of GDP)	5.1	7.0	3.4	5.6	2.5	3.1	0.9	-0.8	-2.5

Note:

[1]In percent of potential GDP, with potential GDP growth according to the programme as recalculated by the Commission.

Source :

Commission spring 2012 forecasts (COM); Stability programme (SP).

Table III. Composition of the budgetary adjustment

(% of GDP)	2011	2012		2013		2014	2015	2016	Change: 2011-2016
	COM	COM	SP	COM	SP	SP	SP	SP	SP
Revenue	**39.2**	**38.9**	**40.1**	**38.1**	**38.4**	**36.9**	**35.7**	**35.2**	**-4.0**
of which:									
- Taxes on production and imports	13.8	13.9	14.0	13.9	14.1	14.1	14.2	14.1	0.3
- Current taxes on income, wealth, etc.	6.6	6.6	6.8	6.6	6.8	6.9	6.7	6.8	0.2
- Social contributions	12.3	12.0	11.9	11.7	11.7	11.3	11.3	11.2	-1.1
- Other (residual)	6.6	6.4	7.4	5.9	5.8	4.6	3.5	3.1	-3.5
Expenditure	**38.2**	**41.2**	**42.7**	**39.3**	**39.1**	**36.8**	**35.3**	**34.3**	**-3.9**
of which:									
- Primary expenditure	38.1	41.1	42.6	39.2	38.9	36.6	35.1	34.0	-4.1
of which:									
Compensation of employees and intermediate consumption	18.2	18.2	18.2	18.0	17.7	17.0	16.4	15.8	-2.4
Social payments	13.4	13.3	13.4	12.9	13.2	13.0	12.8	12.6	-0.8
Subsidies	1.0	1.0	1.1	1.0	1.1	1.0	1.0	1.0	0.0
Gross fixed capital formation	4.2	5.5	6.8	4.7	4.7	3.6	3.5	3.4	-0.8
Other (residual)	1.3	3.1	3.2	2.7	2.3	1.9	1.3	1.1	-0.2
- Interest expenditure	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2
General government balance (GGB)	**1.0**	**-2.4**	**-2.6**	**-1.3**	**-0.7**	**0.1**	**0.5**	**0.9**	**-0.1**
Primary balance	**1.1**	**-2.2**	**-2.4**	**-1.1**	**-0.5**	**0.3**	**0.7**	**1.2**	**0.1**
One-off and other temporary measures	1.7	-1.0	-1.3	-0.6	-0.3	-0.2	-0.3	-0.3	-2.0
GGB excl. one-offs	**-0.6**	**-1.3**	**-1.3**	**-0.7**	**-0.4**	**0.3**	**0.8**	**1.2**	**1.8**
Output gap[2]	-1.5	-1.9	-1.7	-0.8	-1.4	-0.7	0.0	0.6	2.2
Cyclically adjusted balance[2]	1.5	-1.8	-2.1	-1.0	-0.3	0.3	0.5	0.7	-0.8
Structural balance[3]	**-0.2**	**-0.8**	**-0.8**	**-0.5**	**0.0**	**0.5**	**0.8**	**1.0**	**1.2**
Change in structural balance		*-0.6*	*-0.6*	*0.3*	*0.8*	*0.5*	*0.3*	*0.2*	
Structural primary balance[3]	-0.1	-0.6	-0.7	-0.3	0.2	0.7	1.0	1.3	1.4
Change in structural primary balance		*-0.6*	*-0.6*	*0.3*	*0.9*	*0.5*	*0.3*	*0.3*	
Expenditure benchmark									
Public expenditure growth[4] (real)		7.10	2.22	0.71	4.64	2.46	-0.22	n.a.	n.a.
Reference rate[5,6]		2.27	2.27	2.27	2.27	*2.27*	*2.27*	n.a.	n.a.
Lower reference rate[5,7]		1.03	1.03	1.03	1.03	*1.03*	*1.03*	n.a.	n.a.
Deviation in % of GDP from applicable reference rate		2.28	0.37	-0.12	1.13	*0.06*	*-0.80*	n.a.	n.a.
Two-year average deviation in % of GDP from applicable reference rate		n.a.	n.a.	1.08	0.75	*0.59*	*-0.37*	n.a.	n.a.

Notes:

[1]On a no-policy-change basis.

[2]Output gap (in % of potential GDP) and cyclically-adjusted balance according to the programme as recalculated by the Commission on the basis of the information in the programme.

[3]Structural (primary) balance = cyclically-adjusted (primary) balance excluding one-off and other temporary measures.

[4]Modified expenditure aggregate used for the expenditure benchmark, growth rates net of non-discretionary changes in unemployment benefit and of discretionary measures.

[5]The reference rates applicable to 2014 onwards will be available from mid-2012. For illustrative purposes, the current reference rates have also been applied to the years 2014 onwards.

[6]The (standard) reference rate applies starting in the year following the one in which the country reaches its MTO.

[7]The lower reference rate applies as long as the country is adjusting towards its MTO, including the year in which it reaches the MTO.

Source:

Stability programme (SP); Commission spring 2012 forecasts (COM); Commission calculations.

Table IV. Debt dynamics

(% of GDP)	Average 2006-10	2011	2012		2013		2014	2015	2016
			COM	SP	COM	SP	SP	SP	SP
Gross debt ratio[1]	**5.3**	**6.0**	**10.4**	**8.8**	**11.7**	**11.0**	**10.6**	**10.0**	**n.a.**
Change in the ratio	0.4	-0.6	4.4	2.8	1.3	2.2	-0.4	-0.6	-0.5
Contributions [2] *:*									
1. Primary balance	**-0.2**	**-1.1**	**2.2**	**2.4**	**1.1**	**0.5**	**-0.3**	**-0.7**	**-1.2**
2. Snowball effect	**0.0**	**-0.6**	**-0.2**	**-0.1**	**-0.5**	**-0.3**	**-0.4**	**-0.4**	**-0.3**
Of which:									
Interest expenditure	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.3
Growth effect	0.0	-0.5	-0.1	-0.1	-0.4	-0.2	-0.4	-0.3	-0.3
Inflation effect	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.3	-0.3
3. Stock-flow adjustment	**0.6**	**1.1**	**2.3**	**0.5**	**0.7**	**2.0**	**0.3**	**0.5**	**1.0**

Notes:

[1]End of period.

[2]The snowball effect captures the impact of interest expenditure on accumulated debt, as well as the impact of real GDP growth and inflation on the debt ratio (through the denominator). The stock-flow adjustment includes differences in cash and accrual accounting, the accumulation of financial assets and valuation and other residual effects.

Source :

Stability programme (SP); Commission spring 2012 forecasts (COM); Commission calculations

Table V. Sustainability indicators

	EE		EU27	
	No-policy change scenario	Programme (SP) scenario	No-policy change scenario	SCPs scenario
S2	2.1	0.3	2.9	0.7
of which:				
Initial budgetary position (IBP)	1.2	-0.7	0.7	-1.6
Long-term change in the primary balance (LTC)	0.8	1.0	2.3	2.4
of which:				
Pensions	-0.2	0.2	1.1	1.2
Care (health care and LTC)	1.0	0.8	1.5	1.5
Others	0.1	0.0	-0.3	-0.3
S1 (required adjustment)*	-2.1	-4.6	2.2	-0.1
Debt, % of GDP (2011)	6.0		82.8	
Age-related expenditure, % of GDP (2011)	19.2		25.8	

Source: Commission, 2012 stability and convergence programmes.

Note: The "no policy change" scenario depicts the sustainability gap under the assumption that the budgetary position evolves

* The required adjustment of the primary balance until 2020 to reach a public debt of 60% of GDP by 2030.

Figure. Medium-term debt projection

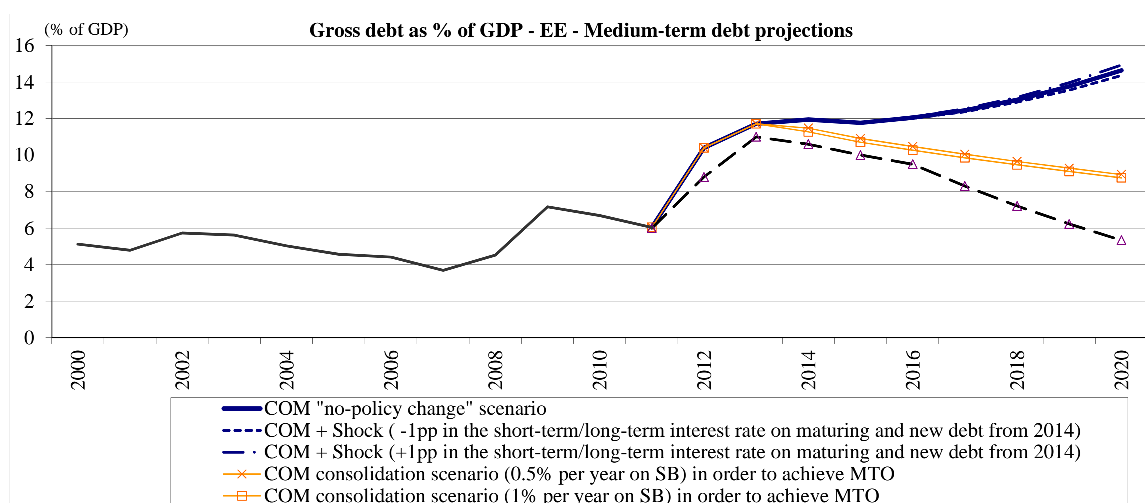

Table VI. Taxation indicators

	2001	2005	2007	2008	2009	2010
Total tax revenues (incl. actual compulsory social contributions, % of GDP)	30.2	30.6	31.4	31.7	35.7	34.2
Breakdown by economic function (% of GDP)[1]						
Consumption	11.7	12.8	13.0	11.7	14.4	13.6
of which:						
- VAT	8.2	8.7	8.9	7.9	8.8	8.8
- excise duties on tobacco and alcohol	1.5	1.7	1.8	1.3	2.5	1.7
- energy	1.6	1.9	1.8	1.9	2.5	2.6
- other (residual)	0.5	0.5	0.5	0.5	0.5	0.5
Labour employed	16.6	14.9	15.6	17.1	18.1	17.8
Labour non-employed	0.3	0.5	0.4	0.5	0.6	0.6
Capital and business income	0.9	1.9	2.0	1.9	2.0	1.5
Stocks of capital/wealth	0.6	0.6	0.5	0.6	0.6	0.6
p.m. Environmental taxes[2]	2.1	2.3	2.2	2.3	3.0	3.0
VAT efficiency[3]						
Actual VAT revenues as % of theoretical revenues at standard rate	68.2	75.2	79.7	66.8	66.3	68.5

Note:

1 Tax revenues are broken down by economic function, i.e. according to whether taxes are raised on consumption, labour or capital. See European Commission (2012), Taxation trends in the European Union, for a more detailed explanation.

2 This category comprises taxes on energy, transport and pollution and resources included in taxes on consumption and capital.

3 The VAT efficiency is measured via the VAT revenue ratio. The VAT revenue ratio is defined as the ratio between the actual VAT revenue collected and the revenue that would theoretically be raised if VAT was applied at the standard rate to all final consumption. A low ratio can indicate a reduction of the tax base due to large exemptions or the application of reduced rates to a wide range of goods and services ('policy gap') or a failure to collect all tax due to e.g. fraud ('collection gap'). See European Commission (2011), Tax reforms in EU Member States, European Economy 5/2011, for a more detailed explanation.

Source: Commission

Table VII. Financial market indicators

	2007	2008	2009	2010	2011
Total assets of the banking sector (% of GDP)	…	135.5	153.9	142.6	118.7
Share of assets of the five largest banks (% of total assets)	95.7	94.8	93.4	92.3	…
Foreign ownership of banking system (% of total assets)	98.3	97.1	94.9	…	…
Financial soundness indicators:					
- non-performing loans (% of total loans) [1]	0.5	1.9	5.2	5.4	5.1
- capital adequacy ratio (%) [1], [2]	14.8	18.8	22.2	22.1	16.9
- return on equity (%) [1], [3]	30.2	13.4	-24.6	2.1	38.6
Bank loans to the private sector (year-on-year % change)	0.0	0.0	-4.8	-4.4	-3.5
Lending for house purchase (year-on-year % change)	0.0	0.0	-1.8	-2.1	-1.5
Loans-to-deposits ratio	…	203.9	184.0	164.0	145.2
CB liquidity as % of liabilities	…	…	…	…	0.0
Banks' exposure to countries receiving official financial assistance (% of GDP)[4]	…	…	…	…	…
Private debt (% of GDP)	…	101.1	112.9	103.6	90.1
Gross external debt (% of GDP) [4]					
- Public	1.4	3.2	5.9	5.2	3.8
- Private	44.8	50.5	49.8	52.6	48.7
Long-term interest rates spread versus Bund (basis points)*	187.7	418.0	476.1	322.5	…
Credit default swap spreads for sovereign securities (5-year)*	…	524.8	373.9	107.2	102.6

Notes:

[1] Latest March 2011.

[2] The capital adequacy ratio is defined as total capital divided by risk-weighted assets.

[3] Net income-to-equity ratio. Branches of foreign banks are excluded.

[4] Latest data 2011Q3.

* Measured in basis points.

Source :

Bank for International Settlements and Eurostat (exposure to macro-financially vulnerable countries), IMF (financial soundness indicators), Commission (long-term interest rates), World Bank (gross external debt) and ECB (all other indicators).

Table VIII. Labour market and social indicators

Labour market indicators	2006	2007	2008	2009	2010	2011
Employment rate (% of population aged 20-64)	75.8	76.8	77.0	69.9	66.7	70.4
Employment growth (% change from previous year)	6.4	1.4	0.2	-9.2	-4.2	6.7
Employment rate of women (% of female population aged 20-64)	72.5	72.5	72.8	68.8	65.7	67.6
Employment rate of men (% of male population aged 20-64)	79.5	81.4	81.7	71.0	67.7	73.5
Employment rate of older workers (% of population aged 55-64)	58.5	60.0	62.4	60.4	53.8	57.2
Part-time employment (% of total employment)	8.1	8.5	7.5	10.9	11.3	11.0
Part-time employment of women (% of women employment)	11.7	12.6	10.8	14.3	15.1	16.1
Part-time employment of men (% of men employment)	4.5	4.4	4.2	7.3	7.3	5.8
Fixed-term employment (% of employees with a fixed-term contract)	2.7	2.1	2.4	2.5	3.7	4.5
Unemployment rate[1] (% of labour force)	5.9	4.7	5.5	13.8	16.9	12.5
Long-term unemployment[2] (% of labour force)	2.9	2.3	1.7	3.8	7.7	7.1
Youth unemployment rate (% of youth labour force aged 15-24)	12.0	10.0	12.0	27.5	32.9	22.3
Youth NEET[3] rate (% of population aged 15-24)	8.8	8.9	8.8	14.9	14.5	:
Early leavers from education and training (% of pop. 18-24 with at most lower sec. educ. and not in further education or training)	13.5	14.4	14.0	13.9	11.6	:
Tertiary educational attainment (% of population 30-34 having successfully completed tertiary education)	34.6	34.6	35.8	36.6	38.0	:
Labour productivity per person employed (annual % change)	4.5	6.6	-3.8	-4.7	7.4	0.6
Hours worked per person employed (annual % change)	-0.5	-0.2	-1.5	-6.9	2.6	2.3
Labour productivity per hour worked (annual % change; constant prices)	5.0	6.8	-2.4	2.3	4.7	-1.7
Compensation per employee (annual % change; constant prices)	4.8	12.0	4.2	-2.4	0.3	-2.2
Nominal unit labour cost growth (annual % change)	9.1	17.2	14.1	1.4	-5.6	0.8
Real unit labour cost growth (annual % change)	0.3	5.0	8.3	2.4	-6.6	-2.8

Notes:

[1] According to ILO definition (age group 15-74).
[2] Share of persons in the labour force who have been unemployed for at least 12 months.
[3] NEET are persons who are neither in employment nor in any education or training.

Sources:
Commission (EU Labour Force Survey and European National Accounts)

Table VIII. Labour market and social indicators (continued)

Expenditure on social protection benefits (% of GDP)	2005	2006	2007	2008	2009
Sickness/Health care	3.95	3.74	4.00	4.76	5.38
Invalidity	1.16	1.14	1.12	1.45	1.89
Old age and survivors	5.34	5.31	5.14	6.22	7.95
Family/Children	1.50	1.45	1.38	1.77	2.26
Unemployment	0.16	0.11	0.14	0.30	1.22
Housing and social exclusion n.e.c.	0.03	0.04	0.02	0.02	0.03
Total	12.6	12.1	12.1	14.9	19.2
of which: means-tested benefits	0.13	0.10	0.07	0.06	0.10
Social inclusion indicators	**2006**	**2007**	**2008**	**2009**	**2010**
Risk of poverty or exclusion[1] (% of total population)	22.2	22.0	21.8	23.4	21.7
Risk of poverty or exclusion of children (% of people aged 0-17)	24.6	20.1	19.4	24.5	24.0
Risk of poverty or exclusion of elderly (% of people aged 65+)	26.8	35.4	40.9	35.6	19.0
At-risk-of-poverty rate[2] (% of total population)	18.3	19.4	19.5	19.7	15.8
Value of relative poverty threshold (single household per year) - in PPS	3377	3895	4538	4794	4490
Severe material deprivation[3] (% of total population)	7.0	5.6	4.9	6.2	9.0
Share of people living in low work-intensity households[4] (% of people aged 0-59 not student)	7.1	6.2	5.3	5.6	8.9
In-work at-risk-of-poverty rate (% of persons employed)	7.5	7.8	7.3	8.1	6.5

Notes:

[1] People at risk of poverty or social exclusion (AROPE): individuals who are at risk of poverty (AROP) and/or suffering from severe material deprivation (SMD) and/or living in households with zero or very low work intensity (LWI).

[2] At-risk-of-poverty rate: share of people with an equivalised disposable income below 60% of the national equivalised median income.

[3] Share of people who experience at least 4 out of 9 deprivations: people cannot afford to i) pay their rent or utility bills, ii) keep their home adequately warm, iii) face unexpected expenses, iv) eat meat, fish, or a protein equivalent every second day, v) enjoy a week of holiday away from home once a year, vi) have a car, vii) have a washing machine, viii) have a colour TV, or ix) have a telephone.

[4] People living in households with very low work intensity: share of people aged 0-59 living in households where the adults work less than 20% of their total work-time potential during the previous 12 months.

Sources:

For expenditure on social protection benefits ESSPROS; for social inclusion EU-SILC.

Table IX. Product market performance and policy indicators

Performance indicators	2002-2006	2007	2008	2009	2010	2011
Labour productivity[1] total economy (annual growth in %)	6.3	6.6	-3.9	-4.7	7.3	0.6
Labour productivity[1] in manufacturing (annual growth in %)	10.4	5.5	-6.6	-11.2	28.0	n.a.
Labour productivity[1] in electricity, gas, water (annual growth in %)	2.0	42.9	-5.5	-4.3	n.a.	n.a.
Labour productivity[1] in the construction sector (annual growth in %)	4.0	-10.7	-4.2	0.2	21.7	n.a.
Patent intensity in manufacturing[2] (patents of the EPO divided by gross value added of the sector)	0.6	1.2	1.1	n.a.	n.a.	n.a.
Policy indicators	**2002-2006**	**2007**	**2008**	**2009**	**2010**	**2011**
Enforcing contracts[3] (days)	n.a.	425	425	425	425	425
Time to start a business[3] (days)	n.a.	7	7	7	7	7
R&D expenditure (% of GDP)	0.9	1.1	1.3	1.4	1.6	n.a.
Tertiary educational attainment (% of 30-34 years old population)	29.2	33.3	34.1	35.9	40.0	n.a.
Total public expenditure on education (% of GDP)	18.8	4.9	5.7	n.a.	n.a.	n.a.
	2005	**2006**	**2008**	**2009**	**2010**	**2011**
Product market regulation[4], Overall (Index; 0 = not regulated; 6 = most regulated)	n.a.	n.a.	1.3	n.a.	n.a.	n.a.
Product market regulation[4], Retail (Index; 0 = not regulated; 6 = most regulated)	n.a.	n.a.	1.8	n.a.	n.a.	n.a.
Product market regulation[4], Network industries[5] (Index; 0 = not regulated; 6 = most regulated)	n.a.	n.a.	2.5*	n.a.	n.a.	n.a.

Notes:

[1]Labour productivity is defined as gross value added (in constant prices) divided by the number of persons employed.

[2] Patent data refer to applications to the European Patent Office (EPO). They are counted according to the year in which they were filed at the EPO. They are broken down according to the inventor's place of residence, using fractional counting if multiple inventors or IPC classes are provided to avoid double counting.

[3] The methodologies, including the assumptions, for this indicator are presented in detail on the website http://www.doingbusiness.org/methodology.

[4] The methodologies for the product market regulation indicators are presented in detail on the website http://www.oecd.org/document/1/0,3746,en_2649_34323_2367297_1_1_1_1,00.html. The latest available product market regulation indicators refer to 2003 and 2008, except for network industries.

[5] Aggregate ETCR.

*figure for 2007.

Source:

Commission, World Bank - *Doing Business* (for enforcing contracts and time to start a business) and OECD (for the product market regulation indicators).

Table X. Green growth

		2001-2005	2006	2007	2008	2009	2010
Green growth performance							
Macroeconomic							
Energy intensity	kgoe / €	0.70	0.54	0.57	0.58	0.61	0.68
Carbon intensity	kg / €	2.51	1.95	2.10	2.02	1.98	n.a.
Resource intensity (reciprocal of resource productivity)	kg / €	3.27	3.24	3.67	3.39	3.68	n.a.
Waste intensity	kg / €	n.a.	1.98	1.87	1.97	n.a.	n.a.
Energy balance of trade	% GDP	-2.5%	-3.4%	-3.6%	-4.2%	-2.3%	-1.5%
Energy weight in HICP	%	13	13	11	12	13	13
Difference between change in energy price and inflation	%	5.18	4.5	7.2	14.9	3.7	3.9
Environmental taxes over labour taxes	ratio	12.6%	14.3%	13.8%	13.3%	16.0%	n.a.
Environmental taxes over total taxes	ratio	6.8%	7.1%	7.0%	7.3%	8.3%	n.a.
Sectoral							
Industry energy intensity	kgoe / €	0.38	0.28	0.27	0.26	0.23	n.a.
Share of energy-intensive industries in the economy	% GDP	9.5	9.8	9.8	10.1	9.9	n.a.
Electricity prices for medium-sized industrial users	€/ kWh	n.a.	0.05	0.05	0.05	0.06	0.06
Public R&D for energy	% GDP	n.a.	0.02%	0.02%	0.02%	0.02%	n.a.
Public R&D for the environment	% GDP	n.a.	0.03%	0.04%	0.04%	0.03%	n.a.
Recycling rate of municipal waste	ratio	14.0%	17.5%	23.4%	20.4%	20.7%	n.a.
Share of GHG emissions covered by ETS	%	n.a.	64.7%	71.0%	67.5%	61.3%	n.a.
Transport energy intensity	kgoe / €	0.73	0.61	0.60	0.55	0.56	n.a.
Transport carbon intensity	kg / €	2.11	1.79	1.72	1.56	1.63	n.a.
Change in the ratio of passenger transport and GDP	%	n.a.	-8.0%	-6.9%	6.0%	n.a.	n.a.
Security of energy supply							
Energy import dependence	%	28.3%	28.5%	23.8%	24.0%	21.2%	n.a.
Diversification of oil import sources	HHI	n.a.	0.00	0.00	0.00	0.00	n.a.
Diversification of energy mix	HHI	0.41	0.39	0.44	0.41	0.40	n.a.
Share of renewable energy in energy mix	%	10.6%	9.8%	9.9%	11.0%	13.5%	n.a.

Country-specific notes:

The year 2011 is not included in the table due to lack of data.

General explanation of the table items:

Source: Eurostat unless indicated otherwise; ECFIN explanations given below.

All macro intensity indicators are expressed as a ratio of a physical quantity to GDP (in 2000 prices):

Energy intensity: gross inland energy consumption (in kgoe) divided by GDP (in EUR);

Carbon intensity: Greenhouse gas emissions (in kg CO2 equivalent) divided by GDP (in EUR);

Resource intensity: Domestic material consumption (in kg) divided by GDP (in EUR);

Waste intensity: waste (in kg) divided by GDP (in EUR).

Energy balance of trade: the balance of energy exports and imports, expressed as % of GDP.

Energy weight in HICP: the share of the "energy" items in the consumption basket used in the construction of the HICP.

Difference between energy price change and inflation: energy component of HICP, and total HICP inflation (annual %-change).

Environmental taxes over labour or total taxes: from DG TAXUD's database "Taxation trends in the European Union".

Industry energy intensity: final energy consumption of industry (in kgoe) divided by gross value added of industry (in EUR).

Share of energy-intensive industries in the economy: share of gross value added of the energy-intensive industries in GDP.

Recycling rate of municipal waste: ratio of municipal waste recycled over total municipal waste.

Public R&D for energy or for the environment: government spending on R&D (GBAORD) for these categories as % of GDP.

Share of GHG emissions covered by ETS: based on greenhouse gas emissions as reported by Member States to EEA (excl LULUCF).

Transport energy intensity: final energy consumption of transport (in kgoe) divided by gross value added of industry (in EUR).

Transport carbon intensity: greenhouse gas emissions in transport divided by gross value added of the transport sector.

Passenger transport growth : measured in %-change in passenger kilometres.

Energy import dependence: net energy imports divided by gross inland energy consumption incl. of international bunkers.

Diversification of oil import sources: Herfindahl index (HHI), calculated as the sum of the squared market shares of countries of origin.

Diversification of the energy mix: Herfindahl index over natural gas, total petrol products, nuclear heat, renewable energies and solid fuels.

Share of renewable energy in energy mix: percentage-share in gross inland energy consumption, expressed in tonnes of oil equivalent.